

## WHAT IS CLAIMED IS:

1. A composition of matter selected from the group consisting of:

- 5 a) a substantially pure or recombinant C23 polypeptide exhibiting identity over a length of at least 12 contiguous amino acids to SEQ ID NO: 2;
- b) a natural sequence C23 of SEQ ID NO: 2;
- c) a fusion protein comprising C23 sequence.

10

2. A substantially pure or isolated polypeptide comprising a segment exhibiting sequence identity to a corresponding portion of a C23 of Claim 1, wherein:

- 15 a) said identity is over at least 15 contiguous amino acids;
- b) said identity is over at least 19 contiguous amino acids; or
- c) said identity is over at least 25 contiguous amino acids.

20

3. The composition of matter of Claim 1, wherein said:

- a) C23 comprises a mature sequence of Table 1;
- b) polypeptide:
- 25 i) is from a warm blooded animal selected from a mammal, including a rodent or primate;
- ii) comprises at least 27 contiguous amino acids of SEQ ID NO: 2;
- iii) exhibits a plurality of said lengths exhibiting said identity;
- 30 iv) is a natural allelic variant of SEQ ID NO: 2;
- v) has a length at least about 30 amino acids;
- vi) exhibits at least two non-overlapping epitopes which are specific for a mammalian C23;
- vii) exhibits a sequence identity over at least 33 amino acids to SEQ ID NO: 2;
- 35

00000000-00000000

72

- viii) exhibits at least two non-overlapping epitopes which are specific for SEQ ID NO: 2;
- ix) exhibits sequence identity over a length of at least about 20 amino acids to SEQ ID NO: 2;
- x) is not glycosylated;
- xi) has a molecular weight of at least 3 kD;
- xii) is a synthetic polypeptide;
- xiii) is attached to a solid substrate;
- xiv) is conjugated to another chemical moiety;
- xv) is a 5-fold or less substitution from natural sequence; or
- xvi) is a deletion or insertion variant from a natural sequence.

4. A composition comprising:

- a) a sterile C23 polypeptide of Claim 1,
- b) said C23 polypeptide of Claim 1 and a carrier, wherein said carrier is:
- i) an aqueous compound, including water, saline, and/or buffer; and/or
- ii) formulated for oral, rectal, nasal, topical, or parenteral administration.

5. The fusion protein of Claim 1, comprising:

- a) mature protein sequence of Table 1;
- b) a detection or purification tag, including a FLAG, His6, or Ig sequence; or
- c) sequence of another cytokine or growth factor protein.

6. A kit comprising a polypeptide of Claim 1, and:

- a) a compartment comprising said polypeptide; and/or
- b) instructions for use or disposal of reagents in said kit.

00000000-00000000

7. A binding compound comprising an antigen binding portion from an antibody, which specifically binds to a natural C23 polypeptide of Claim 1, wherein:

- a) said polypeptide is a primate C23;
- b) said binding compound is an Fv, Fab, or Fab2 fragment;
- c) said binding compound is conjugated to another chemical moiety; or
- d) said antibody:
  - i) is raised against a peptide sequence of a mature polypeptide of Table 1;
  - ii) is raised against a mature C23;
  - iii) is raised to a purified C23;
  - iv) is immunoselected;
  - v) is a polyclonal antibody;
  - vi) binds to a denatured C23;
  - vii) exhibits a  $K_d$  to antigen of at least 30  $\mu$ M;
  - viii) is attached to a solid substrate, including a bead or plastic membrane;
  - ix) is in a sterile composition; or
  - x) is detectably labeled, including a radioactive or fluorescent label.

8. A kit comprising said binding compound of Claim 7, and:

- a) a compartment comprising said binding compound; and/or
- b) instructions for use or disposal of reagents in said kit.

9. A method of:

- A) making an antibody of Claim 7, comprising immunizing an immune system with an immunogenic amount of a primate C23 polypeptide thereby causing said antibody to be produced; or
- B) producing an antigen:antibody complex, comprising contacting a primate C23 polypeptide with an antibody of Claim 7 thereby allowing said complex to form.

10. A composition comprising:

- a) a sterile binding compound of Claim 7, or
- b) said binding compound of Claim 7 and a carrier, wherein  
said carrier is:
  - i) an aqueous compound, including water, saline,  
and/or buffer; and/or
  - ii) formulated for oral, rectal, nasal, topical, or  
parenteral administration.

11. An isolated or recombinant nucleic acid encoding a polypeptide or fusion protein of Claim 1, wherein:

- a) said C family protein is from a primate; or
- b) said nucleic acid:
  - i) encodes an antigenic peptide sequence of Table 1;
  - ii) encodes a plurality of antigenic peptide  
sequences of Table 1;
  - iii) exhibits at least about 80% identity to a  
natural cDNA encoding said segment;
  - iv) is an expression vector;
  - v) further comprises an origin of replication;
  - vi) is from a natural source;
  - vii) comprises a detectable label;
  - viii) comprises synthetic nucleotide sequence;
  - ix) is less than 6 kb, preferably less than 3 kb;
  - x) is from a mammal, including a primate;
  - xi) comprises a natural full length coding sequence;
  - xii) is a hybridization probe for a gene encoding  
said C family protein; or
  - xiii) is a PCR primer, PCR product, or mutagenesis  
primer.

12. A cell or tissue comprising a recombinant nucleic acid of Claim 11.

13. The cell of Claim 12, wherein said cell is:

00909090-061000

- a) a prokaryotic cell;  
b) a eukaryotic cell;  
c) a bacterial cell;  
d) a yeast cell;  
e) an insect cell;  
f) a mammalian cell;  
g) a mouse cell;  
h) a primate cell; or  
i) a human cell.

14. A kit comprising said nucleic acid of Claim 11, and:

- a) a compartment comprising said nucleic acid;  
b) a compartment further comprising a C23 polypeptide;  
and/or  
c) instructions for use or disposal of reagents in said kit.

15. A method of:

- A) making a polypeptide, comprising expressing said nucleic acid of Claim 11, thereby producing said polypeptide; or  
B) making a duplex nucleic acid, comprising contacting said nucleic acid of Claim 11 with a hybridizing nucleic acid, thereby allowing said duplex to form.

16. A nucleic acid which:

- a) hybridizes under wash conditions of 30° C and less than 2M salt to SEQ ID NO: 1; or  
b) exhibits at least about 85% identity over a stretch of at least about 30 nucleotides to a primate C23.

17. The nucleic acid of Claim 16, wherein:

- a) said wash conditions are:  
i) at 45° C and/or 500 mM salt; or  
ii) at 55° C and/or 150 mM salt; or  
b) said identity is:

00000000-061000

- i) at least 90% and/or said stretch is at least 55 nucleotides; or
- ii) at least 95% and/or said stretch is at least 75 nucleotides.

5

18. A method of modulating physiology or development of a cell or tissue culture cells comprising contacting said cell with an agonist or antagonist of a C23.

add at

09099898-061898  
968T90" 8686060